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ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,  
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ning of each regular issue of the PCT Gazette.

(54) Title: METHODS OF PRODUCING LIGNIN PEROXIDASE AND ITS USE IN SKIN AND HAIR LIGHTENING

(57) Abstract: Methods of producing lignin peroxidase are provided. Also provided are methods and cosmetic compositions suitable for skin and hair lightening as well as kits and an article-of-manufacturing including active ingredients for skin and hair lightening.

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL03/01055

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61K 7/135; C07K 1/00; C09B 29/00, 67/02; C12N 1/20, 9/00, 9/08; C12P 21/04; C12Q 1/68,  
US CL : 8/524,525,641; 424/ 62; 435/6, 71.1, 183, 192, 252.3; 530/350; 534/845

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 8/524,525,641; 424/ 62; 435/6, 71.1, 183, 192, 252.3; 530/350; 534/845

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
IUBMB, REGISTRYElectronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
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## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 3,251, 742 A SOLOWAY, S) 17 May 1966, (17.05.1966), Entire document, especially Claims 1-6	1, 6-20
Y	US 6,732,464 B1 (YAYER et al.) 16 April 2002 (16.04.2002), Entire document, especially,	1-50
Y	US 5,486,214 A (PASZCZYNSKI et al.) 23 January 1996 (23 01. 1996), Entire document.	1-68
Y	US 5,342, 765 A (IRVINE et al.) 30 August 1994 (30.08.1994), Entire Document, Especially Abstract, Example 1, Claims 1-10	51-60

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

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"O" document referring to an oral disclosure, use, exhibition or other means

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document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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**Continuation of B. FIELDS SEARCHED Item 3:**

USPT, PGPB, EPAB, JPAB, DWPI, BIOSIS, BIOTECHNO, CAPLUS, CEABA-VTB, CONFSCI, EMBASE, ESBIODASE, FEDRIP, FOMAD, FROSTI, HCAPLUS, IFIPAT, JICST-EPLUS, KOSMET, LIFESCI, MEDLINE, PROMPT, RDISCLOSURE, SCISEARCH, USPATFUL, WPIDS.

**Search Strategy:**

Lignin peroxidase, laccase, manganese peroxidase, ligninase, ligninolytic enzymes, isoenzymes, white rot fungi, Phaenerochaete chrysosporium, Lentinus, mushroom, dye, hair, cosmetics, product\$, hair, keratin, skin, dyeing.